Title:
Patient expectations of pressure ulcer prevention in the National Health Service, healthcare demands and national policy: A critical commentary

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Healthcare demands on the NHS created by PU prevention remain unclear although the burden is high with litigation costs rising continuously. The poorly understood economics of PU prevention may create variation in practice.
Patient expectations of PU prevention may be influenced by mainstream media, national awareness campaigns and the varied information and advice offered by professionals. Confounding patient expectations low levels of functional health literacy amongst patients may create confusion and unrealistic expectations.
This article critically discusses the impacts of recent changes in government priorities related to pressure ulcer prevention considering the impact of healthcare demand, economics and patient expectations.

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This article critically discusses the impacts of recent changes in government priorities related to pressure ulcer prevention considering the impact of healthcare demand, economics and patient expectations.

Key Words:

Pressure ulcer; prevention; policy; expectations; demands; NHS

Reflective Questions:

How can we ensure that national campaigns to promote health have maximum impact?

How can we improve the health literacy of our patients with regards to pressure ulcer prevention?

How is the NHS long term plan impacting the care you deliver?

Introduction

Chronic wounds create a significant burden on individuals and on the financial resources of healthcare organisations (Philips et al 2015). The management of chronic wounds, including pressure ulcers (PU), is associated with annual costs of over £5 billion to the National Health Service (NHS) and mismanagement of these wounds has been an ongoing challenge (Greener 2019). Confounding the economics of chronic wound care, significant public health reform in 2013 led to a real-terms reduction in spending power of 28.6% between 2010 and 2017 in the newly devolved healthcare budgets (Buck 2020). Currently, the NHS long term plan includes the reversal of this funding deficit with a focus on increasing funding in areas including multi-morbidity and diabetes as well as specific wound related targets including the national wound care strategy and the development of a CQUIN (Commissioning for Quality and Innovation) for wound care, to help monitor the quality of care (NHS 2019). In addition to these responses to the growing demands of chronic wounds, the NHS long term plan aims to reduce unjustifiable variation in care (NHS 2019). This issue is likely to impact the delivery of care, and experience of patients, with chronic wounds which is currently associated with significant variation in clinical practice (Adderley 2017).

Patient-centred care represents the accepted paradigm for modern healthcare (Richards 2015). However, clinicians often believe their care is patient-centered despite this not being reflected in patient surveys, indicating the importance of managing patient expectations in the delivery of healthcare (Eaton and Roberts 2015). This is particularly relevant in the prevention of PU which has been associated with a 43% increase in litigation costs between 2014-2018, suggesting an increased public awareness of PU and expectation that they should be prevented (Stephenson 2019).

This article will debate the issue of healthcare demands and patient expectations and perceptions of healthcare services in relation to PU prevention in the NHS. In addition to potential barriers to the implementation of effective PU prevention as per European Pressure Ulcer Advisory Panel (EPUAP)/ National Pressure Injury Advisory Panel (NPIAP) and Pan Pacific Injury Alliance (PPPIA) guidance (EPUAP 2019).

Healthcare policy and government priorities

Contemporary government priorities in healthcare are published within the *NHS five-year forward view* (NHS 2014). PU care is not referenced explicitly within the document, however a planned shift in the focus of healthcare towards primary and secondary prevention is a common theme (NHS 2014). In addition to the promotion of preventative care, which has clear implications for PU prevention, the forward plan also includes workforce development and improving the efficiency of services (NHS 2014).

Workforce issues have also been identified in the context of PU prevention within primary studies of community nursing staff working in the NHS (Cross et al 2016, Clarkson et al 2019). Specifically, these studies identified poor interprofessional collaboration and limited education were identified as potential barriers to effective PU prevention. These studies relied on small samples of staff from a single trust therefore extrapolation of these findings to all NHS settings is not appropriate. However, the findings of Cross et al's (2016) study which focussed on community care workers may be more representative of care delivered by non-registered nursing staff throughout the NHS due to the lack of consistent training these staff undertake (Cunningham et al 2019). The issue of inconsistent training and its impact on nursing care was identified within the 2013 Francis Enquiry and led to a recommendation that healthcare support workers (HSW) become registered (recommendation 1.194) and subject to a consistent training programme throughout the NHS (Francis 2013). Despite this, regulation of HSW has not been adopted into national policy and remains a controversial issue potentially contributing to avoidable variation in care, inefficiencies, and the risk of care being delivered by staff without adequate training (Webb 2011). This represents a potential conflict of healthcare priorities, with the NHS long term plan aiming for a reduction in unwarranted variation, whilst continuing to operate non-standardised training and employing unregulated healthcare workers within the NHS.

Education standards for registered nursing staff in the UK, however, were updated in 2018 and now include specific PU prevention related competencies, including the assessment of skin and the use of pressure relieving techniques (Nursing and Midwifery Council 2018). Although this is in keeping with the five-year forward view and the British government's emphasis on preventative care the impact of this reform is unlikely to be seen yet with the first nurses trained to the post-2018 standards not due to qualify until 2021. It is evident that more training and education is needed, particularly for nursing staff trained prior to changes to the nursing curriculum in 2018.

Currently, PU is recognised as a high priority area for quality improvement by NHS England which is reflected in funding for NHS England commissioned campaigns (Public Health England 2015). Current campaigns include the development of a National Wound Care Strategy (NWCS), the *React to Red* campaign and the development of NICE guidance. The NWCS was inspired by a review of the economic burden of wound care on the NHS by Guest et al (2015). The NWCS is broadly split into three workstreams and three missions (Webb 2018). One of the missions is the assessment and prevention of PU with work streams including the generation of a national data set and standardisation of education and training. The NWCS therefore represents a clear manifestation of government priorities led by experts in wound care (Adderley 2020). However, work on establishing data baselines relating to PU care is ongoing and the impact of the NWCS on PU prevention is yet to be determined (Adderley 2020).

The '*Stop the Pressure*' campaign initially launched by NHS Midlands and East then developed as part of the NWCS aimed to improve risk assessment and data collection, has seen an increase in awareness of PU with some trusts producing case study posters indicating their work related to the campaign (Stop the Pressure 2018). Examples include a poster produced by Waller (2017) which included an audit of documentation followed by procurement of new equipment and training. Waller (2017) concluded that a reduction in PUs had resulted from this intervention however no data was presented to support this, and no observational audit methodology was described to indicate data were collected on PU occurrence. Farman (2017) described the development of a framework to reduce PUs based on an acronym (aSSKINg) however, no data was presented indicating the impact this approach has on PU prevention. Overall, there is little robust data to indicate the clinical impact of the *Stop the Pressure* campaign. However, it may contribute to an increased awareness of PUs and consequently patients' expectations of PU preventative care via access, dissemination and sharing of campaign materials. Data may yet emerge indicating the value of this campaign on the government's preventative care priority and the NWCS mission to reduce PU occurrence. Specifically, case studies and service reviews describing the impacts of the campaign are needed to help elucidate its impact clinically in addition to any barriers to its implementation. These should be produced by clinicians and healthcare leaders responsible for the provision of preventative pressure ulcer care.

The healthcare demands of pressure ulcer prevention

Economic evaluations of the cost of PU prevention have been conducted in a variety of healthcare settings however, they are limited in guiding priorities due to methodological challenges undermining the value of results (Ocampo et al 2017). Specifically, evaluations of preventative interventions and associated costs are often evaluated in combination making the relative cost-effectiveness of individual interventions challenging to measure (Ocampo et al 2017).

Recent studies have sought to better evaluate the cost-effectiveness of PU prevention methods. For example, Whitty et al (2017) conducted a large scale randomised controlled trial (RCT) including eight tertiary hospitals. The authors concluded that multicomponent PU prevention may not be cost effective despite improving overall nursing practice. However, the authors acknowledged that sample size (n=8) was insufficient to provide statistically meaningful data indicating the costs associated with determining the cost-effectiveness of PU prevention. In addition, patients who developed a PU during the trial were excluded from the final analysis. This may limit the cost-effectiveness outcome data due to the absence of data indicating the cost saving produced by prevention of PU deterioration; more severe PU often costing more to manage than superficial ulcers due to a myriad of factors (Brem et al 2011).

A more recent study by Padula et al (2019) investigated quality of life years (QALY) as a secondary outcome alongside cost effectiveness. The authors concluded that PU prevention is cost-effective and improved QALY in patients. The results, however, were limited by assumptions that the inter-rater reliability of PU risk assessment was consistent using the Braden tool as well as patient compliance with PU prevention. PU risk assessment tools (PURAT) are associated with no change in the incidence or severity of PU incidence, which may indicate a lack of clinimetric value in current PURAT or the methodology used to demonstrate their efficacy (Moore and Patton 2019). Notably, studies have indicated the poor inter-rater reliability of the Braden PURAT (Kottner and Dassen 2010, Wang et al 2014, Riccioni et al 2019). This suggests that trials evaluating the cost-effectiveness of PU prevention may include patients with an inaccurately calculated risk for PU leading to the inefficient use of resources and the limitation of conclusions drawn from data associated with them. In addition, assumptions are often made that patient compliance with PU prevention are likely to be favourable. However, a recent study by Ledger et al (2019) reported that patients in community demonstrated poor compliance with preventative interventions. This may undermine studies investigating

preventative interventions where consistent compliance among study participants is assumed. Future studies should include regular audit of interventions under investigation throughout trials to mitigate this. More studies are also needed to establish the clinimetric properties of available PURAT and how these can be optimised in order to mitigate biases introduced by the reliability of the tools.

In addition to the clinimetric flaws of the risk assessments used to recruit patients into trials and inconsistent patient compliance, the 'event frequency' associated with PU development has been identified as a limiting factor in the interpretation of economic data on PU prevention (Nixon et al 2019). The incidence of PU may vary between healthcare facilities due to variations in risk and PU prevention practices which ultimately undermines statistical power calculations (Nixon et al 2019). This may have impacted a recent study by Beeckman et al (2019) in which alternating pressure mattresses (APM) were reported to significantly reduce PU in a nursing home population and was therefore cost-effective ($p=0.04$) however, the power calculation guiding the sample size used was based on incidence data from a tertiary care setting (Demarre et al 2013). Patients in a tertiary care setting are likely to be at higher risk and therefore more PU may develop in this population (Koivunen et al 2018), leading to a potential overestimation of efficacy when APM were used in a nursing home population. However, prevalence data on PU in different care settings is inconsistent which may be due to differences in reporting, PU prevention care and the risk inherent in the specific patient population (Courvoisier et al 2018, Moore et al 2019). This ultimately indicates the need for contemporaneous prevalence data in power calculations for study of specific patient populations when evaluating the economics of PU prevention, although this does present pragmatic challenges to researchers. Studies should seek to determine sample sizes based on contemporary local epidemiological data where possible, for example from incident reports.

Patient expectations in relation to pressure ulcer prevention

Public perceptions of PUs have changed over the last decade with growing awareness of the impact and potential avoidability of PU; this is reflected in increased litigation against the NHS associated with PU (Stephenson 2019). Increases in litigation have been observed despite investigation of root cause analyses of PUs indicating that the avoidability of PUs had been previously overestimated and that potentially only 50% of PU can be avoided (Downie et al 2013). The growing expectation of the British public that PU should be avoided may be due to the mainstream press raising awareness on the impacts

of PU on individuals or documenting pay-outs received by those who have made claims (Wighton 2012, Gregory 2013).

Government campaigns to increase awareness may have also contributed to the changing expectations of patients. Integration of modern patient centred and evidence-based care paradigms with PU prevention in campaigns such as *Stop the Pressure* requires professionals to share care decisions with patients (Guy et al 2013). Patients expect to receive effective counselling on the options available to them and to receive care based on robust clinical evidence (Greenhalgh 2014). This is complicated however, in cases where the care is complex in nature and outcomes dependent on a multitude of factors (Greenhalgh 2014). Effective PU prevention is reliant on complex factors including the initial assessment of risk in combination with one or more preventative interventions which independently have poor evidence bases (Gillespie et al 2014, McInnes et al 2018, Moore and Patton 2019). The impact of a poor evidence base may contribute to the unwarranted variations in clinical practice identified as an issue requiring action in the NHS long term plan (NHS 2019). It is possible that with more investment in research investigating the efficacy of preventative interventions for PU, variation in practice may be reduced.

Variation in practice and advice may also negatively impact patients' health literacy which was demonstrated to be poor in a recent mixed-methods study on NHS patients in community settings (Durrant et al 2018). According to the authors, information leaflets had a poor impact on the functional health literacy of patients, they instead reported that effective patient-professional relationships are key to improved literacy. It is unclear if the results from this study can be extrapolated to inpatient settings where patient-professional interactions are more frequent creating more opportunities for patients to develop greater health literacy regarding PU prevention. However, this was not indicated in a review by Ledger et al (2020) which reported patient compliance with PU prevention was low in both community and inpatient settings. The authors recommended further research to indicate factors affecting patient engagement in preventative strategies. This suggests that patients have limited expectations that recommended preventative strategies will be effective regardless of the availability of healthcare professionals or access to advice and information. This may indicate a failure of clinicians to effectively balance the interplay between medical factors, treatment environment and personal factors which have been established to impact on patients' locus of control and subsequent motivation to comply with recommended management plans (Papadopoulos et al 1999). Ledger et al (2020)

proposed that patients' lifestyle considerations in combination with shared-decision making may impact patient adherence to preventive strategies.

Conclusion

Preventative care has been identified as a government priority in addition to workforce development (NHS 2014), this is likely to impact PU preventative care in the NHS. A NWCS has been created which includes work streams addressing PU prevention (NHS 2019). However there remains little robust data indicating the impact of the NWCS due to its infancy. Government priorities relating to PU prevention are conflicting in certain areas, specifically the target for a reduction in unwarranted variation in clinical practice is not reflected in the decision not to regulate all healthcare staff made following the Francis (2013) report which indicated that a lack of regulation of staff contributed to inconsistent and poor care.

Economic analyses of PU prevention interventions are undermined by factors including the multifaceted approach taken towards prevention (Ocampo et al 2017) and poor inter-rater reliability of PURAT undermining recruitment into trials investigating PU prevention, (Moore and Patton 2019). Statistical analysis of results yielded from economic analyses are limited by the inconsistent frequency rate of PU development between patient populations, these are sometimes recycled between trials despite significant variations observed between care settings (Courvoisier et al 2018, Moore et al 2019). This may influence the observed efficacy of preventative strategies and influence economic evaluations.

Overall, the healthcare demands on the NHS created by PU prevention remain unclear although the burden is clearly high with costs associated with litigation rising continuously (Stephenson 2019). The implications of the poorly understood economics of PU prevention may include variation in practice contrary to the NHS long term plan (NHS 2019). Sub-optimal allocation of resources, due to the lack of robust data indicating the efficacy of preventative strategies as well as the cost-effectiveness of specific interventions such as APM (Beeckman et al 2019) or multicomponent care bundles (Whitty et al 2017). Crucially, PU prevalence may be higher than could be achieved with more effective resource allocation (Moore et al 2019).

Patient expectations of PU prevention may be influenced by mainstream media (Wighton 2012, Gregory 2013), awareness campaigns created by health professionals (Guy et al 2013) and the varied information, advice and intervention offered by healthcare staff (Durrant et al 2018). Confounding patient expectations, a lack of robust evidence guiding health professionals and a low level of functional health literacy amongst community patients may create confusion and unrealistic expectations (Durrant et al 2018). This is reflected in low compliance amongst patients with contemporary authors suggesting more research be conducted to identify what contributes to patients' adherence to advice and understanding of PU prevention (Ledger et al 2020).

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